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10/565,156

01/19/2006

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EXAMINER

PATEL, PARESH H

ART UNIT

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2829

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/565,156 | Applicant(s) MACHIDA ET AL. | |
| | Examiner Paresh Patel | Art Unit 2829 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed 07/31/2008 have been fully considered but they are not persuasive. With respect to claim 1, Applicants' argues that "the contactor of Maruyama et al. does not deform in the same direction as the present invention" because the contactor of Maruyama et al. has an offset shape. Examiner disagrees because the shape of the portion of the contactor (see top portion in fig. 19b) is rectilinear. Therefore the contactor at said top portion deforms in the same direction as the present invention, when it makes contact with the electrode.

2. With respect to claim 2, Applicants argues that shape memory alloys, such as Ti-Ni, are not disclosed in Maruyama et al. Examiner disagrees with applicant because bimetal contactor as disclosed by Maruyama et al. is a contact part comprises a base part and a junction part as the present invention. Maruyama et al. states

"[0146] Moreover, each of the LSI-side contact electrode part 6a and the test-board-side contact electrode part 6b may be a coil spring formed of **a shape-memory alloy**. In the example shown in FIG.

19B, the contact electrode itself is formed of a bimetal so that the LSI-side contact electrode part 6a is deformed by heating or cooling, which presses an end of the LSI-side contact electrode part 6a against the electrode terminal 2a of the LSI while performing a wiping operation. When a bimetal is used, since the deformation of the

bimetal is reversible, a contact pressure generated by heating the bimetal can be cancelled by cooling.”

3. In response to applicant's argument that the references Maruyama et al. fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., special alloys, such as Ti-Ni) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

4. With respect to Flechsig et al. reference the Applicants' argues that the test probe is not rectilinear, as presently claimed. Examiner disagrees because Flechsig et al. discloses a probe with “an almost rectilinear” contact part in fig. 10B.

5. In response to applicant's argument that the references Ding et al. fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e. heating) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Drawings

6. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.84(h) **e.g. three dimension of a probe (3D view)**. No new matter may be introduced in the required drawing. Each drawing sheet submitted after the

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filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

7. The drawings are objected to because "**a direction almost perpendicular**" as presented in the claims 1-2 is not shown in the drawing. Appropriate correction is required.

Claim Objections

8. Claims 1-2 are objected to because of the following informalities: "**a direction almost perpendicular**" as presented in the claim is not shown in the drawing. Appropriate correction is required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Maruyama et al. (US 6791345) and in view of Flechsig et al. (US 7176703) or Ding et al. (US 6577147).

Regarding claim 1, Maruyama et al. in fig. 19B discloses a probe comprising:

an almost rectilinear contact part **[bimetal contact electrode]** which can come in contact with an electrode of an object to be measured almost perpendicularly, a tip end **[see wiping operation]**; and

a base end **[one end of the contact electrode]** continued to the contact part, characterized in that said contact part comprises a base part **[one metal of bimetal]** with the tip end formed of a first material having a first thermal expansion coefficient and an almost rectilinear junction part **[other metal of the bimetal contact electrode]** which is formed of a second material having a second thermal expansion coefficient different from that of the first material **[inherent to** *"In the example shown in FIG. 19B, the contact electrode itself is formed of a bimetal so that the LSI-side contact electrode part 6a is deformed by **heating or cooling**, which presses an end of the LSI-side contact electrode part 6a against the electrode terminal 2a of the LSI while performing a wiping operation. When a bimetal is used, **since the deformation of the bimetal is reversible, a contact pressure generated by heating the bimetal can be cancelled by cooling**. In order to perform such alternate heating and cooling, it is preferable to provide an electronic cooling element such as a Peltier element to the contactor substrate 8."* **Also see fig. 10B of Flechsig et al. and Fig. 3 of Ding et al.]** and provided integrally and longitudinally along a widthwise end of the base part **[see fig. 19B]**, and in that said contact part is deformed **[not shown, but is either inherent or obvious]** in a direction almost perpendicular **[when contact s made]** to the longitudinal direction of said base part due to respective thermal expansion of said base part and said junction part.

Regarding claim 2, Maruyama et al. **in fig. 19B** discloses a probe comprising:

an almost rectilinear contact part **[bimetal contact electrode]** which can come in contact with an electrode of an object to be measured almost perpendicularly; a tip end **[see wiping operation]**; and

a base end **[one end of the contact electrode]** continued to the contact part, characterized in that said contact part further comprises a base part with the tip end which is formed of an elastic material **[one metal of fig. 19B]** and a junction part **[other metal of the bimetal contact electrode]** which is integrally provided at a widthwise end of said base part, in that said junction part is formed of a shape memory alloy **[inherent to** *“In the example shown in FIG. 19B, the contact electrode itself is formed of a **bimetal** so that the LSI-side contact electrode part 6a is deformed by heating or cooling, which presses an end of the LSI-side contact electrode part 6a against the electrode terminal 2a of the LSI while performing a wiping operation. When a bimetal is used, **since the deformation of the bimetal is reversible**, a contact pressure generated by heating the bimetal can be cancelled by cooling. In order to **perform such alternate heating and cooling**, it is preferable to provide an electronic cooling element such as a Peltier element to the contactor substrate 8.”* **Also see fig. 10B of Flechsig et al. and Fig. 3 of Ding et al. for shape memory alloy Ni and Ti]** which can be expanded or contracted in a longitudinal direction of said base part and in that said contact part is deformed in a direction almost perpendicular **[when contact is made]** to the longitudinal direction of said base part due to deformation of said junction part.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 571-272-1968. The examiner can normally be reached on 8:00 to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Paresh Patel/
Primary Examiner, Art Unit 2829

November 8, 2008